

Appeal Brief filed May 14, 2007



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application. No. : 10/038,341
Applicant : Seemab Aslam Kadri
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Examiner : Samson B. Lemma

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Commissioner for Patents
P.O. Box 1450
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APPEAL BRIEF

Dear Sir:

Applicant submits, the following Appeal Brief pursuant to 37 C.F.R. § 41.37 for consideration by the Board of Patent Appeals and Interferences. Applicant also submits herewith our check number 1115 in the amount of \$500 to cover the cost of filing the opening brief as required by 37 C.F.R. § 41.20(1)(b). Please charge any additional fees or credit any overpayment to our deposit Account No.02-2666. A duplicate copy of the Fee Transmittal is enclosed for this purpose.

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee, Intel Corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to the appellants, the appellants' legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-35 of the present application are pending. Claims 1-35 remain rejected. The Applicant hereby appeals the rejection of claims 1-35.

IV. STATUS OF AMENDMENTS

On August 7, 2006, Applicant filed a response to an Office Action dated April 19, 2005. The Examiner issued a Final Office Action on October 19, 2006. On January 31, 2007, the Applicant filed a Notice of Appeal and a Pre-Appeal Brief Review Request in response to the Final Office Action. No amendments have been filed subsequent to the final rejection. On March 12, 2007, the Review panel issued the Notice of Panel Decision stating that the application remains under appeal.

V. SUMMARY OF CLAIMED SUBJECT MATTER

1. Independent claims 1, 11, 21, and 31:

The invention is a technique to allow efficient communication across firewalls. A system 100 includes a firewall 110, a relay server 120, an external peer 130, and a network 140¹. The devices being protected by the firewall 110 include a gateway device 150, an internal contact point 160, N registered internal peers 170₁ to 170_N; and K unregistered internal peers 180₁ to 180_K².

¹ See Specification, paragraph [0016], Figure 1.

² See Specification, paragraph [0017], Figure 1

The internal contact point 160 is the central contact point for the peers 170₁ to 170_N inside the firewall 110. The internal contact point 160 communicates with the gateway device 150 via a tunnel 165. Thus, the internal contact point 160 communicates to the relay server 120 or the external peer 130 via the gateway device 150, and forwards the information or messages received from the external peer 130 and other external peers to the registered internal peers³. The internal contact point 160 includes a gateway interface 210, a collector 220, a registrar 230, a distributor 240, and a peer interface 250⁴.

The collector 220 collects messages sent by the outside world such as the external peer 130. The messages are intended for any one of the internal peers 170₁ to 170_N. The collector 220 may also collect messages sent by the internal peers 170₁ to 170_N when the internal peers 170₁ to 170_N want to send messages via the internal contact point 160 rather than directly to the gateway device 150⁵.

The distributor 240 distributes the collected message to the internal peer recipient if there is a match in the address information of the message and the registered peer. The distributor 240 receives the registration information forwarded by the registrar 230 and maintains a list of registered internal peers. When the collector 240 forwards messages to the distributor 240, the distributor 240 compares the address information with that of the registered internal peers. If there is no address match, either because there is no corresponding peer or the peer has not been registered, the message will be rejected or discarded. The distributor 240 may also connect to the gateway interface 210 rather than directly to the gateway device 150, when the registered internal peer wishes to send a message to the outside world⁶.

2. Dependent claims 2-10, 12-20, 22-30, and 22-35:

The gateway interface 210 interfaces internally to the firewall 110 to the gateway device 150 located at the firewall 110. When required, the gateway interface 210 establishes a continuous connection to the relay server 120 outside the firewall 110 through tunneling. The gateway interface 210 is also responsible for forwarding the registration information of the registered internal peers 170₁ to 170_N to the relay server 120 such that

³ See Specification, paragraph [0024]; Figure 1.

⁴ See Specification, paragraph [0029]; Figure 2.

⁵ See Specification, paragraph [0031].

⁶ See Specification, paragraph [0033].

the relay server 120 is notified that these internal peers are now represented by the internal contact point 160⁷.

The registrar 230 registers the internal peer wishing to establish a communication to the external world across the firewall 110. The registrar 230 compiles a list of the internal peers 170₁ to 170_N inside the firewall 110 wishing to receive messages from the external peer 130. The addresses of these registered internal peers 170₁ to 170_N will be compared with the destination address information received by the collector 220 such that a decision to forward or distribute the message can be made⁸.

The gateway device 150 is located at the firewall boundary between the protected internal network and the external world. The gateway device 150 may be any one of the four types: a packet filter, a circuit level gateway, an application level gateway and a stateful multilayer inspection firewall⁹. The relay server 120 is a server that has a tunnel 155 to the gateway device 150. The relay server 120 may not be needed when the external devices may have direct connection to the firewall 110 via the gateway device 150. This is typically the case when the gateway device 150 uses a static NAT¹⁰.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-35 stand rejected under 35 U.S.C. §102(e) as being unpatentable over U.S. Publication No. 2002/0143855 issued to Traversat et al. (“Traversat”).

VII. ARGUMENTS

A. Claims 1-35 Are Not Anticipated Over Traversat.

Claims 1-35 stand rejected under 35 U.S.C. §102(e) as being unpatentable over U.S. Publication No. 2002/0143855 issued to Traversat et al. (“Traversat”). Applicant respectfully traverses the rejection and submit that the Examiner has not met the burden of establishing a *prima facie* case of obviousness.

Traversat discloses relay peers for extending peer availability in a peer-to-peer networking environment. Relay peers relay messages between peers that cannot

⁷ See Specification, paragraph [0030].

⁸ See Specification, paragraph [0032].

⁹ See Specification, paragraph [0018].

¹⁰ See Specification, paragraph [0027].

communicate directly (Traversat, paragraph [0401]). The peer inside the firewall may contact the relay peer to retrieve messages received at the relay peer on behalf of the peer (Traversat, paragraph [0402]). The relay peer may keep information about routes that it discovers and store them in the route table. This allows the relay peer to build a knowledge base about the network topology (Traversat, paragraph [0408])

Traversat does not disclose, either expressly or inherently, (1) a collector inside a firewall to collect a message intended for an internal peer inside a firewall via a gateway device at the firewall, (2) the internal peer being registered internally inside the firewall for an external communication across the firewall, (3) a distributor to distribute the message to the registered internal peer if there is a match in address information of the message and the registered internal peer, and (4) a registrar to register the internal peer internally inside the firewall for the external communication across the firewall.

Traversat merely discloses that any peer in a peer group may become a relay peer (Traversat, paragraph [0408]). A peer is not the same as a collector. Furthermore, Traversat does not disclose the intended internal peer registering internally inside the firewall for an external communication across the firewall. In addition, Traversat does not disclose a distributor to distribute the message to the registered internal peer if there is a match in address information of the message and the registered internal peer. Traversat merely discloses the peer inside the firewall contacting the relay peer to retrieve messages, not a distributor distributing the message if there is an address match.

Furthermore, Traversat does not disclose a registrar to register the internal peer internally inside the firewall for the external communication across the firewall. Traversat merely discloses the peer group 210 registers on the proxy service 270 in the region 212A which is outside the firewall (Traversat, paragraph [0463]).

1. In the Office Action, the Examiner contends that an advertisement for the peer group 210 is registered on the proxy service 270 in the region 212A (Final Office Action, page 3, lines 15-16; page 6, paragraph number 6). The Examiner then concludes that this meets the limitation of the internal peer being registered for an external communication across the firewall (Final Office Action, page 3, lines 16-18; page 7, lines 1-2). Applicant respectfully disagrees. The Examiner inexplicably left out the limitation “the internal peer being registered internally inside the firewall for an external communication across the firewall” (Emphasis added.). As discussed above, Traversat emphatically discloses that the

peer region 212A is shown outside of a firewall 248 (Traversat, paragraph [0463]). Since the peer group 210 uses the proxy service 270 to register in the region 212A, the registration takes place externally to the firewall 248.

2. The Examiner further contends that any peer in a peer group can become a relay peer. The Examiner then concludes that either of the peers inside the firewall shown on Figure 20 (i.e., 200D or 200E) or Figure 21 (i.e., 200C or 200D) can be used as relay peers (Final Office Action, page 7, lines 6-9). Applicant respectfully disagrees. Traversat merely states that "any peer in a peer group may become a relay peer" (Traversat, paragraph [0411]) as a general discussion on peer characteristics, but does not disclose or suggest that any peer inside a firewall may become a relay peer. Traversat explicitly discloses that relay peers are outside a firewall or a partition (Traversat, paragraph [0407]). Even if a relay peer is inside a firewall, it still does not perform the tasks including registering peers inside the firewall, collecting messages, and distributing the messages if there is a match in address information as discussed above.

3. The Examiner further contends that reference "524" meets the recitation of a collector to collect a message as well as a distributor to distribute the message. The Examiner further contends that distributing the message inherently includes the matching in the address information of the message and the registered internal peers (Final Office Action, page 7, lines 17-19). Applicant respectfully disagrees for the following reasons.

First, the reference 524 in Figure 31 merely states "relay peer routes the messages to destination peers using the cached route information" (Traversat, paragraph [0417]; Figure 31). The "messages to destination peers" is not the same as a message intended for an internal peer inside a firewall. The destination peers are not peers that are registered internally inside a firewall.

Second, Traversat explicitly discloses that a relay peer caches route information and use the route information to route messages between peers (Traversat, Paragraph [0417]; Figure 31). The route information may be discovered in sending messages from source to destination peers, or received from other peer nodes such as other relay peers or rendezvous peers (Traversat, Paragraph [0417]; Figure 31). Therefore, there is no inherency regarding how the messages are sent. The route information is used to route the message, not based on the matching of address information of the message and the registered internal peer. Furthermore, Traversat explicitly discloses that the relay peer is a

peer outside of a firewall (Traversat, Paragraphs [0403], [0407]; Figure 29, element 244). Therefore, it cannot be inside the firewall to collect and to distribute the message. Moreover, as discussed above, Traversat does not disclose that the message is intended for an internal peer inside a firewall. The relay peer only routes messages between peers (Traversat, Paragraph [0417]; Figure 31), not from an external peer to an internal peer.

4. The Examiner further contends that Traversat discloses that when a peer is asked to send a message to a given peer endpoint address, it may look in its local cache to determine if it has a cached route to this peer (Traversat, Paragraph [0380]). The Examiner then concludes that this meets the limitation of distributing the message to the registered internal peer if there is a match in address information of the message and the registered internal peer (Final Office Action, page 4, lines 21-25; page 8, lines 3-7). Applicant respectfully disagrees for the following reasons.

First, a “given peer endpoint address” is not the registered internal peer. A given peer endpoint address is merely an address of a peer. This peer may not register at all. Furthermore, it may not be an internal peer inside a firewall.

Second, the peer in question as disclosed by Traversat is the peer that sends a message to a given peer endpoint address. Therefore, it is not a distributor that distributes the message transmitted by an external peer outside the firewall. The distributor distributes the collected message to the internal peer recipient. It is not a peer that sends a message to another peer.

Third, “if it has a cached route to this peer” is not the same as “if there is a match in address information of the message and the registered internal peer”. A cached route is a routing path. A route may show the connection from one point to another point. It does not involve matching address information.

Regarding claims 7, 17, 27, and 34, the Examiner contends that Traversat discloses a registrar to register the internal peer for external communication across the firewall, citing Figure 25. Applicant respectfully disagrees. First, as discussed above, the Examiner left out the limitation “internally inside the firewall” in the claims. Second, Figure 25 clearly shows the proxy service 270 to be outside the firewall 248. Accordingly, the registration is external to the firewall 248, not internally inside the firewall.

To anticipate a claim, the reference must teach every element of the claim. “A claim is anticipated only if each and every element as set forth in the claim is found, either

expressly or inherently described, in a single prior art reference.” Vergegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the...claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989).

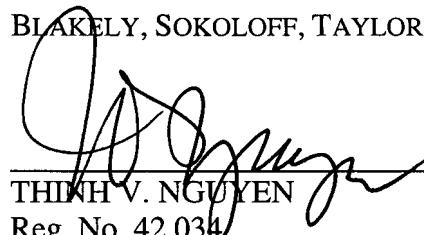
Therefore, Applicant believes that independent claims 1, 11, 21, and 31 and their respective dependent claims are distinguishable over the cited prior art references.

VIII. CONCLUSION

Applicant respectfully requests that the Board enter a decision overturning the Examiner's rejection of all pending claims, and holding that the claims satisfy the requirements of 35 U.S.C. §102.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP


THANH V. NGUYEN

Reg. No. 42,034

Dated: May 14, 2007

12400 Wilshire Blvd., 7th Floor
Los Angeles, CA 90025-1026
(714) 557-3800

IX. CLAIM APPENDIX

The claims of the present application which are involved in this appeal are as follows:

1. (previously presented) An apparatus comprising:
a collector inside a firewall to collect a message intended for an internal peer inside the firewall via a gateway device at the firewall, the message being transmitted by an external peer outside the firewall, the internal peer being registered internally inside the firewall for an external communication across the firewall; and
a distributor coupled to the collector to distribute the message to the registered internal peer if there is a match in address information of the message and the registered internal peer.
2. (original) The apparatus of claim 1, further comprising:
a gateway interface to interface internally to the firewall to the gateway device.
3. (original) The apparatus of claim 2, wherein the gateway interface establishes a continuous connection to a relay server outside the firewall through tunneling.
4. (original) The apparatus of claim 3, wherein the collector registers to the relay server to act as an external contact point for the external peer.
5. (previously presented) The apparatus of claim 4, further comprising a registrar to register the internal peer for the external communication across the firewall, and wherein the collector polls the relay server for an incoming message for the registered internal peer using a single connection.
6. (original) The apparatus of claim 1, wherein the gateway device is one of a firewall and a network translation address (NAT) device.
7. (previously presented) The apparatus of claim 1, further comprising:

a registrar to register the internal peer internally inside the firewall for the external communication across the firewall.

8. (previously presented) The apparatus of claim 7, wherein the collector polls the gateway device for an incoming message for the registered internal peer using a single connection.

9. (previously presented) The apparatus of claim 7, wherein the collector collects an internal message from the registered internal peer to be transmitted to the external peer.

10. (original) The apparatus of claim 9, wherein the distributor distributes the collected internal message to the external peer via the gateway device.

11. (previously presented) A method comprising:
collecting a message intended for an internal peer inside a firewall via a gateway device at the firewall, the message being transmitted by an external peer outside the firewall, the internal peer being registered internally inside the firewall for an external communication across the firewall; and

distributing the message to the registered internal peer if there is a match in address information of the message and the registered internal peer.

12. (original) The method of claim 11, further comprising:
interfacing internally to the firewall to the gateway device located at the firewall.

13. (original) The method of claim 12, wherein the interfacing comprises:
establishing a continuous connection to a relay server outside the firewall through tunneling.

14. (original) The method of claim 13, wherein the collecting comprises:
registering to the relay server to act as an external contact point for the external peer.

15. (previously presented) The method of claim 14, further comprising registering internally inside the firewall the internal peer for the external communication across the firewall, and polling the relay server for an incoming message for the registered internal peer using a single connection.

16. (original) The method of claim 11, wherein the interfacing to the gateway device comprises: interfacing to one of a firewall and a network translation address (NAT) device.

17. (previously presented) The method of claim 11, further comprising: registering the internal peer for the external communication across the firewall.

18. (previously presented) The method of claim 17, wherein the collecting comprises: polling the gateway device for an incoming message for the registered internal peer using a single connection.

19. (previously presented) The method of claim 17, wherein the collecting comprises: collecting an internal message from the registered internal peer to be transmitted to the external peer.

20. (original) The method of claim 19, wherein the distributing comprises: distributing the collected internal message to the external peer via the gateway device.

21. (previously presented) A system comprising:
a gateway device located at a firewall; and
an internal contact point located inside the firewall, the internal contact point comprising:

a collector to collect a message intended for an internal peer inside a firewall via the gateway device, the message being transmitted by an external peer outside the firewall, the internal peer being registered internally inside the firewall for an external communication across the firewall; and

a distributor coupled to the collector to distribute the message to the registered internal peer if there is a match in address information of the message and the registered internal peer.

22. (previously presented) The system of claim 21, wherein the internal contact point further comprises:

a gateway interface to interface internally to the firewall to the gateway device.

23. (original) The system of claim 22, wherein the gateway interface establishes a continuous connection to a relay server outside the firewall through tunneling.

24. (original) The system of claim 23, wherein the collector registers to the relay server to act as an external contact point for the external peer.

25. (previously presented) The system of claim 24, wherein the internal contact point further comprises a registrar to register the internal peer internally inside the firewall for the external communication across the firewall, and wherein the collector polls the relay server for an incoming message for the registered internal peer using a single connection.

26. (original) The system of claim 21, wherein the gateway device is one of a firewall and a network translation address (NAT) device.

27. (previously presented) The system of claim 21, wherein the internal contact point further comprises:

a registrar to register the internal peer for the external communication across the firewall.

28. (previously presented) The system of claim 27, wherein the collector polls the gateway device for an incoming message for the registered internal peer using a single connection.

29. (previously presented) The system of claim 27, wherein the collector collects an internal message from the registered internal peer to be transmitted to the external peer.

30. (original) The system of claim 29, wherein the distributor distributes the collected internal message to the external peer via the gateway device.

31. (previously presented) A system comprising:
a firewall;
an internal peer inside the firewall;
a gateway device located at the firewall; and
an internal contact point located inside the firewall, the internal contact point comprising:

a collector to collect a message intended for the internal peer via the gateway device, the message being transmitted by an external peer outside the firewall, the internal peer being registered internally inside the firewall for an external communication across the firewall; and

a distributor coupled to the collector to distribute the message to the registered internal peer if there is a match in address information of the message and the registered internal peer.

32. (previously presented) The system of claim 31, wherein the internal contact point further comprises:

a gateway interface to interface internally to the firewall to the gateway device.

33. (original) The system of claim 31, wherein the gateway device is one of a firewall and a network translation address (NAT) device.

34. (previously presented) The system of claim 31, wherein the internal contact point further comprises:

a registrar to register the internal peer internally inside the firewall for the external communication across the firewall.

35. (original) The system of claim 31, further comprising: a relay server to interface to a number of external peers outside the firewall.

XI. EVIDENCE APPENDIX

None

XII. RELATED PROCEEDINGS APPENDIX

None